

7 March 1962

MEMORANDUM FOR: Chief, Technical Plans & Development Staff

SUBJECT: Staff Study, Proposed Technical Changes in the
[REDACTED] Camera Calibrator Contract

1. PROBLEM

[REDACTED] has requested permission to change the technical specifications of the camera calibrator contract, [REDACTED] as [REDACTED] in their correspondence of 4 January 1962, and 19 January 1962. The total cost required for the changes is [REDACTED].

2. FACTS

The calibrator that [REDACTED] is building for NPIC is to be the first of its kind. In reviewing the development of the equipment, various improvements in the scope of the instrument have become necessary to insure adequate flexibility to meet NPIC needs.

3. DISCUSSION

Additional units are also being ^{considered for} built for Navy PIC and White Sands Missile Range. After reviewing the development of the instrument by the various technical representatives, modifications were suggested to improve the versatility and performance of the calibrator. While all of these modifications are not of direct interest to NPIC, none restrict the instrument for our use and could be useful in the future. The increase in price requested is considered very small in relation to the improvements over the original instrument as contracted for. For additional information on specific points of interest to NPIC, refer to the memo of 25 January 1962 to Chief, TID from Chief, TID/TAB on the camera calibrator.

4. CONCLUSION

If it is decided not to accept the proposed technical changes, the calibrator will not adequately fill NPIC's need for a highly versatile camera calibrator. The changes as requested reflect our experience with the present wide angle calibrator now in TID and are considered necessary to improve the instrument.

5. RECOMMENDATION

It is recommended that the technical changes as requested in [REDACTED] correspondence of 4 and 19 January 1962 be accepted as presented.

NPIC/TP&DS/TDB: [REDACTED]:df(3591)

AC/TDB

- a. Since the operation of the autocollimator from a sitting position is not considered to be a significant requirement, increase the height of the autocollimator to 62 inches for a greater distance between the collimator lens and the autocollimator. Increase height of target plane to 12 inches from floor for easy access to replace lamps and for foot clearance. Increase the approximate height to table from 24" to 30". Overall height not to exceed 6 feet.
- b. Install a bull's eye level on the autocollimator, camera stage, and collimator lens assembly for rough leveling.
- c. Install a mercury on/off switch for manual exposure control for use on long exposures beyond range of timer.
- d. Select an electric impulse counter with as large numerals as is feasible.
- e. Consecutively number all targets.
- f. Install fiducial illumination.
- g. Install standard safelight with series OA, II, and III filters to autocollimator frame.
- h. Install access doors for entrance to top of target area.
- i. Constant voltage regulator with standard three wire plug.

- j. Proposal Spec. Item b. delete "24x36 mm" and insert "square". (This item to make targets compatible with ~~the~~ square ~~rectangular~~ formats.)
- k. Proposal Spec. Item g. delete "45" and insert "49".
(This is a change in the number of neutral density filters required due to changes in the number of targets from 45 to 49.)
- l. Proposal Spec. Item n, delete sentence and insert "Place 12 additional targets at half-angles of 15° , $17\frac{1}{2}^\circ$ and 20° on diagonals of a rectangular format to accommodate cameras with a 24x36 mm format. (This item to make targets compatible with rectangular formats.)

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FOCAL LENGTH

Maximum Illumination of Camera Frame

5° 10° 15° 20° 25° 30° 35° 40°

Width
Length

NOTE:
The "Focal Length" and "Width or Length of Film" scales are indexed without units. Any unit of measurement may be used provided the same unit is used for both scales. Both scales may be multiplied by any, but the same constant; for example: 2, 0.1, etc.

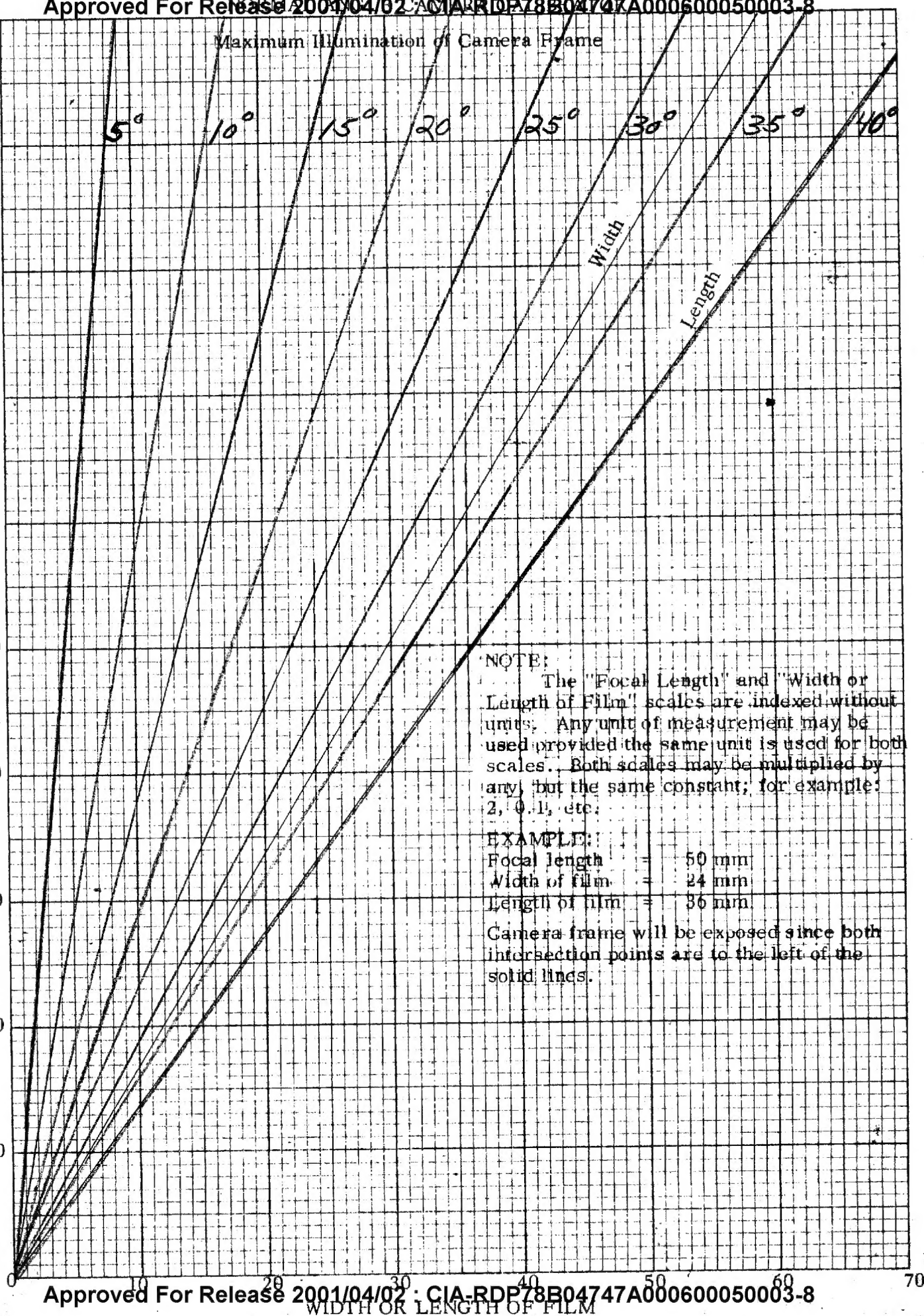
EXAMPLE:
Focal length = 50 mm
Width of film = 24 mm
Length of film = 36 mm

Camera frame will be exposed since both intersection points are to the left of the solid lines.

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John

For
your
reference.

Regards
Mac,
14 Feb 62

PG-1-56(Rev. 5/61)

MEMORANDUM FOR:

Turn over to Chris
on receipt ~~and~~ acceptance
of calibrator

(DATE)

FORM NO. 101 REPLACES FORM 10-101
1 AUG 54 WHICH MAY BE USED.